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MEMORANDUM

TO: Nancy Riveland-Har
Remedial Project Manager
Cleanup Section 4, SFD-7-4

THROUGH: Rose Fong RF
ESAT Project Officer
Quality Assurance (QA) Office, PMD-3

FROM: Doug Lindelof
Data Review and QA Document Review Task Manager
Environmental Services Assistance Team (ESAT)

ESAT Contract No.: 68-W-01-028
Task Order No.: B01
Technical Direction No.: B0105091

DATE: May 20, 2002

SUBJECT: Review of Analytical Data, Tier 3

Attached are comments resulting from ESAT Region 9 review of the following analytical data:

SITE:	Omega Chem OU-2
SITE ACCOUNT NO.:	09 BC LA02
CERCLIS ID NO.:	CAD042245001
CASE NO.:	30205
SDG NO.:	Y0E00
LABORATORY:	A4 Scientific, Inc. (A4)
ANALYSIS:	Volatiles
SAMPLES:	14 Water Samples
COLLECTION DATE:	February 19, 20, 21, and 22, 2002
REVIEWER:	Santiago Lee, ESAT/LDC

The comments and qualifications presented in this report have been reviewed by the EPA Task Order Project Officer (TOPO) for the ESAT Contract, whose signature appears above.

If there are any questions, please contact Rose Fong (QA Program/EPA) at (415) 972-3812.

Attachment
cc: Ray Flores, CLP PO USEPA Region 6
Steve Remaley, CLP PO USEPA Region 9
ESAT File

CLP PO: [ ] FYI [X] Attention [ ] Action

SAMPLING ISSUES: [X] Yes [ ] No

Data Validation Report

Case No.: 30205 SDG No.: Y0E00
Site: Omega Chem OU-2
Laboratory: A4 Scientific, Inc. (A4)
Reviewer: Santiago Lee, ESAT/LDC
Date: May 20, 2002

I. Case Summary

SAMPLE INFORMATION:

Samples:	Y0E07 through Y0E20
Concentration and Matrix:	Low Level Water
Analysis:	Volatiles
SOW:	OLC03.2
Collection Date:	February 19, 20, 21, and 22, 2002
Sample Receipt Date:	February 20, 21, 22, and 23, 2002
Extraction Date:	Not Applicable
Analysis Date:	March 2, 2002 through March 7, 2002

FIELD QC:

Trip Blanks (TB):	Y0E10, Y0E14, Y0E17, and Y0E20
Field Blanks (FB):	Not Provided
Equipment Blanks (EB):	Not Provided
Background Samples (BG):	Not Provided
Field Duplicates (D1):	Y0E08 and Y0E09
Field Duplicates (D2):	Y0E11 and Y0E12

METHOD BLANKS AND ASSOCIATED SAMPLES:

VBLK84:	Y0E07 through Y0E10, Y0E07MS, and Y0E07MSD
VBLK85:	Y0E07DL and Y0E14
VBLK86:	Y0E11 through Y0E13, and Y0E12DL
VBLK88:	Y0E15 through Y0E17, Y0E15DL, and Y0E16DL
VBLK89:	Y0E20 and Y0E18
VBLK90:	Y0E18DL, Y0E19DL, Y0E19, and Y0E11DL
VBLK92:	VHBLK01

TABLES:

1A:	Analytical Results with Qualifications
1B:	Data Qualifier Definitions for Organic Data Review
2:	Calibration Summary

MS - Matrix Spike, MSD - Matrix Spike Duplicate, DL - Dilution

CLP PO ACTION:

None.

CLP PO ATTENTION:

1) Detected results for methylene chloride and acetone in some samples are qualified as nondetected and estimated (U,J) due to contamination in the method blanks and trip blanks.

2) Detected results and quantitation limits for several analytes are qualified as estimated (J) due to calibration problems.

3) Detected results and quantitation limits for several analytes are qualified as estimated (J) due to deuterated monitoring compound (DMC) recoveries outside QC limits.

SAMPLING ISSUES:

Detected result for acetone in sample Y0E07 is qualified as nondetected and estimated (U,J) due to contamination in the trip blank Y0E10.

ADDITIONAL COMMENTS:

For sample Y0E18, area of the first internal standard (109283) exceeded the upper limit of 109176 by <0.1%. Since the area is only slightly outside the QC limits, no adverse effect on the data quality is expected.

Tentatively identified compounds (TICs) detected in the samples are reported on the Form 1LCFs. Other than laboratory artifacts/contaminants (retention times = 9.0 and 14.1 minutes), TICs were detected in samples Y0E08, Y0E09, Y0E15 and Y0E16 (see attached Form 1LCFs).

This report was prepared in accordance with the following documents:

- ESAT Region 9 Standard Operating Procedure 901, *Guidelines for Data Review of Contract Laboratory Program Analytical Services (CLPAS) Volatile and Semivolatile Data Packages*,
- *USEPA Contract Laboratory Program Statement of Work for Low Concentration Organics Analysis,* OLC03.2, December 2000; and
- *USEPA Contract Laboratory Program National Functional Guidelines for Low Concentration Organic Data Review*, June 2001.

II. Validation Summary

	Acceptable/Comment	
HOLDING TIMES	YES	
GC/MS TUNE/GC PERFORMANCE	YES	
INITIAL CALIBRATIONS	NO	C, D
CONTINUING CALIBRATIONS	NO	C, E
LABORATORY BLANKS	NO	B
FIELD BLANKS	NO	B
DEUTERATED MONITORING COMPOUNDS (DMCs)	NO	F
MATRIX SPIKE/DUPLICATES	NO	H
INTERNAL STANDARDS	YES	
COMPOUND IDENTIFICATION	YES	
COMPOUND QUANTITATION	NO	A, G, J
SYSTEM PERFORMANCE	YES	
FIELD DUPLICATE SAMPLE ANALYSIS	NO	I

III. Validity and Comments

A. The following results, denoted with an "L" qualifier, are estimated and flagged "J" in Table 1A.

- All results below the contract required quantitation limits

Results below the contract required quantitation limits (CRQLs) are considered to be qualitatively acceptable, but quantitatively unreliable, due to the uncertainty in analytical precision near the limit of detection.

B. The following results are qualified as nondetected and estimated due to method blank or trip blank contamination, and are flagged "U,J" in Table 1A.

- Methylene Chloride in samples Y0E07, Y0E08, Y0E09, Y0E10, Y0E07MS, and Y0E07MSD
- Acetone in samples Y0E07 and Y0E07MS

Methylene chloride was found in method blanks VBLK84, VBLK85, VBLK86 and VBLK90 at concentrations of 0.2 μg/L, 0.2 μg/L, 0.2 μg/L, and 0.1 μg/L, respectively. Acetone was found in the trip blank Y0E10 at a concentration of 3 μg/L. Results for the samples listed above are considered nondetected and estimated (U,J) and the quantitation limits have been increased according to the blank qualification rules presented below.

No positive results are reported unless the concentration of the compound in the sample exceeds 10 times the amount in any associated blank for the common laboratory contaminants or 5 times the amount for other compounds. If the sample result is greater than the CRQL, the quantitation limit is raised to the sample result (U,J). If the sample result is less than the CRQL, the result is reported as nondetected (U,J) at the CRQL.

Although not detected in the associated method blank, methylene chloride has been commonly found in the field and in many laboratories. The user should note that the methylene chloride result reported in sample Y0E16 (0.1 μg/L) may be an artifact.

Although not detected in the associated trip blanks, chloroform has been commonly found in the field. The user should note that the chloroform results reported in samples Y0E07 (1 μg/L), Y0E15 (0.5 μg/L), Y0E16 (3 μg/L), Y0E07MS (1 μg/L), and Y0E07MSD (1 μg/L) may be artifacts.

Although not detected in the associated trip blanks, the user should note that the acetone found in sample Y0E18 (18 μg/L) and the tetrachloroethene (PCE) results reported in sample Y0E16 (0.6 μg/L) may be artifacts because acetone and PCE were detected in other trip blanks at concentrations of 3-7 μg/L and 0.1 μg/L, respectively.

Although carbon disulfide (0.1-0.2 μg/L), 1,2,3-trichlorobenzene (0.3-0.4 μg/L), and 1,2,4-trichlorobenzene (0.2 μg/L) were found in method blanks, no data are qualified because they were not found in any of the samples associated with these method blanks.

Although toluene (0.1-0.5 μg/L), bromodichloromethane 0.2 μg/L), and dibromochloromethane (0.2 μg/L) were found in the trip blanks, no data are qualified because they were not found in the samples.

A laboratory method blank is laboratory reagent water analyzed with all reagents, DMCs, and internal standards and carried through the sample sample preparation and analytical procedures as the field samples. The laboratory method blank is used to determine the level of contamination introduced by the laboratory during preparation and analysis.

A trip blank is laboratory reagent water which is shipped from the laboratory to the field with the empty sample containers and back to the laboratory with the filled sample containers. A trip blank is intended to detect contaminants introduced during the transport of the samples to the laboratory, although any laboratory introduced contamination will also be present. Contaminants that are found in the trip blank which are absent in the laboratory blank could be indicative of a problem in transportation, storage, the bottle preparation procedure, or other indeterminate error.

C. Detected results and quantitation limits for the following analytes are qualified as estimated due to low relative response factors (RRFs) in the initial and continuing calibrations, and are flagged "J" in Table 1A.

- Acetone, methyl acetate, and 2-butanone in all samples, storage blank, and method blanks
- 2-Hexanone in samples Y0E18 and Y0E20 and method blanks VBLK89

Average RRFs below the 0.05 validation criterion were observed for the analytes listed above in the initial calibration performed on January 31, 2002. RRFs below the 0.05 validation criterion were observed for the analytes listed above in the continuing calibrations performed on March 2, 2002 through March 7, 2002 (Table 2).

Detected results for the analytes listed above should be considered as the minimum values at which these analytes are present in the samples. Where the results are nondetected, false negatives may exist.

The DMCs 2-butanone-d5 and 2-hexanone-d5 also had RRFs below the 0.05 validation criterion in the initial and continuing calibrations (Table 2). The quantitation of the analytes associated with these DMCs may have been affected by the low RRFs. See Comment F for a complete listing of sample data qualified by DMC results outside of recovery criteria.

The relative response factor evaluates instrument sensitivity and is used in the quantitation of

the target analytes.

D. Detected results and quantitation limits for the following analytes are qualified as estimated due to large percent relative standard deviations (RSDs) in the initial calibration, and are flagged "J" in Table 1A.

- Acetone and methylene chloride in all samples, storage blank, and method blanks

Percent RSDs exceeded the ≤30.0% validation criterion for the analytes listed above in the initial calibration performed on January 31, 2002 (Table 2).

The initial calibration demonstrates that the instrument is capable of acceptable performance at the beginning of the analytical sequence and of producing a linear calibration curve.

E. Detected results and quantitation limits for the following analytes are qualified as estimated due to large percent differences (%Ds) in the continuing calibrations, and are flagged "J" in Table 1A.

- Methylene chloride in samples Y0E15 through Y0E17 and method blank VBLK88
- Methylene chloride, cyclohexane, and isopropylbenzene in samples Y0E18 and Y0E20 and method blank VBLK89
- Cyclohexane, methylcyclohexane, and isopropylbenzene in sample Y0E19 and method blank VBLK90
- Acetone and isopropylbenzene in storage blank VHBLK01 and method blank VBLK92

Percent differences exceeded the ±30.0% validation criterion for the analytes listed above in the continuing calibrations performed on March 4, 5, and 7, 2002 (Table 2).

The continuing calibration checks the instrument performance daily and produces the relative response factors (RRFs) for target analytes that are used for quantitation.

F. Detected results and quantitation limits for the following analytes are qualified as estimated due to DMC recovery outside QC limits, and are flagged "J" in Table 1A.

{1,1-Dichloroethene-d2}
- trans-1,2-Dichloroethene and cis-1,2-dichloroethene in sample Y0E20

{trans-1,3-Dichloropropene-d4}
- cis-1,3-Dichloropropene, trans-1,3-dichloropropene, and 1,1,2-trichloroethane in samples Y0E07 and Y0E08

Specific DMC recoveries which were outside the QC limits for the target analytes listed above are shown below.

Sample	DMC	%Recovery	QC Limits
Y0E20	1,1-Dichloroethene-d2	58	(65-130)
Y0E07	trans-1,3-Dichloropropene-d4	78	(80-128)
Y0E08	trans-1,3-Dichloropropene-d4	76	(80-128)

Detected results for affected analytes may be biased low. Where the results are nondetected, false negatives may exist. The samples were not re-analyzed.

Deuterated monitoring compounds (DMCs) are organic compounds which are similar to the target analytes in chemical composition and behavior in the analytical process, but which are not normally found in environmental samples. All samples are spiked with DMCs prior to purging. DMCs provide information about both the laboratory performance on individual samples and the possible effects of the sample matrix on the analytical results.

G. Detected results for the following analyte are qualified as estimated due to high analyte concentration, and are flagged "J" in Table 1A.

- Trichloroethene in QC samples Y0E07MS and Y0E07MSD

Concentrations of trichloroethene (TCE) in the undiluted analysis of the QC samples exceeded the 0.5-25 μg/L calibration range. The QC samples were not re-analyzed at dilutions.

H. The matrix spike and matrix spike duplicate recoveries and relative percent difference (RPD) for 1,1-dichloroethene (1,1-DCE) and TCE did not meet the criteria for accuracy and precision specified in the SOW, as shown below.

	Y0E07MS	Y0E07MSD		QC Limits	
Analyte	% Recovery	% Recovery	RPD	RPD	% Recovery
1,1-Dichloroethene	60	46	26	≤14	61-145
Trichloroethene	0	-200	-200	≤14	71-120

For TCE, the sample concentration (130 μg/L) greatly exceeded the spike concentration of 5 μg/L; the recoveries and RPD are not meaningful. Results for 1,1-DCE may indicate poor laboratory technique or matrix effects which may interfere with accurate analysis. The effect on data quality is not known.

Matrix spike sample analysis provides information about the effect of the sample matrix on sample preparation and analysis.

I. In the analysis of the field duplicate pairs, the following outliers were obtained for the analyte listed below.

	Y0E08 (D1)	Y0E09 (D1)	
Analyte	Conc. μg/L	Conc. μg/L	RPD (<25%)
1,1-Dichloroethene	1	0.5U	N/A
1,1,2-Trichloro-1,2,2-trifluoromethane	0.5L	0.5U	N/A
cis-1,3-Dichloropropene	0.5U	0.3L	N/A

	Y0E11 (D2)	Y0E12 (D2)	
Analyte	Conc. μg/L	Conc. μg/L	RPD (<25%)
1,1-Dichloroethene	6.7	3.7	58%
trans-1,2-Dichloroethene	0.3L	1.6	N/A
1,1,2-Trichloroethane	0.2L	0.5U	N/A

A relative percent difference (RPD) value is not calculated and is presented above as "N/A" when an analyte is detected in a sample but is nondetected (U) at the CRQL in the associated field duplicate sample, or when an analyte is detected below the CRQL in both field duplicate samples. The effect on the data quality is not known.

A RPD of 58% was obtained for 1,1-DCE in the analysis of field duplicate samples Y0E11 and Y0E12. The effect on data quality is not known.

The analysis of field duplicate samples is a measure of both field and analytical precision. The imprecision in the results of the analysis of the field duplicate pair may be due to the sample matrix or poor sampling or laboratory technique.

J. Samples Y0E11 and Y0E12 were analyzed at dilutions due to the high levels of cis-1,2-DCE. Results for cis-1,2-DCE are reported from the diluted samples in Table 1A; results for all other analytes are reported from the undiluted samples.

Sample Y0E19 was analyzed at dilution due to the high level of 1,1-DCE. Results for 1,1-DCE are reported from the diluted sample in Table 1A; results for all other analytes are reported from the undiluted sample.

Samples Y0E15 and Y0E16 were analyzed at dilutions due to the high levels of acetone. Results for acetone are reported from the diluted samples in Table 1A; results for all other analytes are reported from the undiluted samples.

Samples Y0E07, Y0E11, Y0E12, Y0E18, and Y0E19 were analyzed at dilutions, due to the high levels of TCE. Results for TCE are reported from the diluted samples in Table 1A; results for all other analytes are reported from the undiluted samples.

Samples Y0E11, Y0E12, and Y0E19 were analyzed at dilutions due to the high level of tetrachloroethene (PCE). Results for PCE are reported from the diluted samples in Table 1A; results for all other analytes are reported from the undiluted samples.

ANALYTICAL RESULTS
Tier 3 Table 1A

Case No.: 30205 SDG No.: Y0E00
Site: Omega Chem OU-2
Lab: A4 SCIENTIFIC, INC.
Reviewer: Santiago Lee, ESAT/LDC
Date: May 16, 2002

QUALIFIED DATA
Concentration in ug/L

Analysis Type: Low Level Water Samples
For Volatiles

Station Location:	GW102-MW4C-0094			GW102-MW11-0045			GW102-MW11-1045			GW102-MW4C-2005			GW102-MW8A-0040			GW102-MW8A-1040			GW102-MW8B-0070		
Sample ID:	Y0E07			Y0E08		D1	Y0E09		D1	Y0E10		TB	Y0E11		D2	Y0E12		D2	Y0E13		
Collection Date:	2/19/2002			2/19/2002			2/19/2002			2/19/2002			2/20/2002			2/20/2002			2/20/2002		
Dilution Factor:	1.0			1.0			1.0			1.0			1.0			1.0			1.0		
Volatile Compound	**Result**	**Val**	**Com**	**Result**	**Val**	**Com**	**Result**	**Val**	**Com**	**Result**	**Val**	**Com**	**Result**	**Val**	**Com**	**Result**	**Val**	**Com**	**Result**	**Val**	**Com**
Dichlorodifluoromethane	0.2L	J	A	0.5U			0.5U			0.5U			0.5U			0.5U			0.5U		
Chloromethane	0.5U			0.5U			0.5U			0.5U			0.5U			0.5U			0.5U		
Vinyl Chloride	0.5U			0.5U			0.5U			0.5U			0.5U			0.5U			0.5U		
Bromomethane	0.5U			0.5U			0.5U			0.5U			0.5U			0.5U			0.5U		
Chloroethane	0.5U			0.5U			0.5U			0.5U			0.5U			0.5U			0.5U		
Trichlorofluoromethane	7			0.1L	J	A	0.1L	J	A	0.5U			0.5U			0.5U			0.5U		
1,1-Dichloroethene	5			1		I	0.5U		I	0.5U			7		I	4		I	3		
1,1,2-Trichloro-1,2,2-trifluoroethane	19			0.5U	J	AI	0.5U		I	0.5U			0.5U			0.5U			0.4L	J	A
Acetone	5U	J	BCD	5U	J	CD	5U	J	CD	3L	J	ACD	5U	J	CD	5U	J	CD	5U	J	CD
Carbon Disulfide	0.5U			0.5U			0.5U			0.5U			0.5U			0.5U			0.5U		
Methyl Acetate	0.5U	J	C	0.5U	J	C	0.5U	J	C	0.5U	J	C	0.5U	J	C	0.5U	J	C	0.5U	J	C
Methylene Chloride	0.5U	J	BD	0.5U	J	BD	0.5U	J	BD	0.5U	J	BD	0.5U	J	D	0.5U	J	D	0.5U	J	D
trans-1,2-Dichloroethene	0.5U			0.5U			0.5U			0.5U			0.3L	J	AI	2		I	0.5U		
Methyl tert-Butyl Ether	0.5U			0.3L	J	A	0.3L	J	A	0.5U			0.4L	J	A	0.4L	J	A	0.5U		
1,1-Dichloroethane	0.5U			0.6			0.6			0.5U			0.4L	J	A	0.3L	J	A	0.5U		
cis-1,2-Dichloroethene	0.8			3			3			0.5U			30		J	24	J	AJ	1		
2-Butanone	5U	J	C	5U	J	C	5U	J	C	5U	J	C	5U	J	C	5U	J	C	5U	J	C
Bromochloromethane	0.5U			0.5U			0.5U			0.5U			0.5U			0.5U			0.5U		
Chloroform	1			0.5U			0.5U			0.5U			0.5U			0.5U			0.5U		
1,1,1-Trichloroethane	0.5U			0.5U			0.5U			0.5U			0.5U			0.5U			0.5U		
Cyclohexane	0.5U			0.5U			0.5U			0.5U			0.5U			0.5U			0.5U		
Carbon Tetrachloride	0.5U			0.1L	J	A	0.1L	J	A	0.5U			0.5U			0.5U			0.5U		
Benzene	0.1L	J	A	0.5U			0.5U			0.5U			0.5U			0.5U			0.5U		
1,2-Dichloroethane	0.5U			0.5U			0.5U			0.5U			0.5U			0.5U			0.5U		
Trichloroethene	92		J	3			3			0.5U			120		J	110		J	3		
Methylcyclohexane	0.5U			0.5U			0.5U			0.5U			0.5U			0.5U			0.5U		
1,2-Dichloropropane	0.5U			0.5U			0.5U			0.5U			0.5U			0.5U			0.5U		
Bromodichloromethane	0.5U			0.5U			0.5U			0.5U			0.5U			0.5U			0.5U		
cis-1,3-Dichloropropene	0.5U	J	F	0.5U	J	FI	0.3L	J	AI	0.5U			0.5U			0.5U			0.5U		
4-Methyl-2-pentanone	5U			5U			5U			5U			5U			5U			5U		
Toluene	0.5U			0.5U			0.5U			0.1L	J	A	0.5U			0.5U			0.5U		
trans-1,3-Dichloropropene	0.5U	J	F	0.5U	J	F	0.5U			0.5U			0.5U			0.5U			0.5U		
1,1,2-Trichloroethane	0.5U	J	F	0.5U	J	F	0.5U			0.5U			0.2L	J	AI	0.5U		I	0.5U		
Tetrachloroethene	21			18			19			0.1L	J	A	580		J	540		J	14		
2-Hexanone	5U			5U			5U			5U			5U			5U			5U		
Dibromochloromethane	0.5U			0.5U			0.5U			0.5U			0.5U			0.5U			0.5U		
1,2-Dibromoethane	0.5U			0.5U			0.5U			0.5U			0.5U			0.5U			0.5U		

ANALYTICAL RESULTS
Tier 3 Table 1A

Case No. : 30205 SDG No. : Y0E00
Site : Omega Chem OU-2
Lab : A4 SCIENTIFIC, INC.
Reviewer : Santiago Lee, ESAT/LDC
Date : May 16, 2002

QUALIFIED DATA
Concentration in ug/L

Analysis Type : Low Level Water Samples For Volatiles

Station Location :	GW102-MW4C-0094			GW102-MW11-0045			GW102-MW11-1045			GW102-MW4C-2005			GW102-MW8A-0040			GW102-MW8A-1040			GW102-MW8B-0070		
Sample ID :	Y0E07			Y0E08	D1		Y0E09	D1		Y0E10	TB		Y0E11	D2		Y0E12	D2		Y0E13		
Collection Date :	2/19/2002			2/19/2002			2/19/2002			2/19/2002			2/20/2002			2/20/2002			2/20/2002		
Dilution Factor :	1.0			1.0			1.0			1.0			1.0			1.0			1.0		
Volatile Compound	**Result**	**Val**	**Com**	**Result**	**Val**	**Com**	**Result**	**Val**	**Com**	**Result**	**Val**	**Com**	**Result**	**Val**	**Com**	**Result**	**Val**	**Com**	**Result**	**Val**	**Com**
Chlorobenzene	0.5U			0.5U			0.5U			0.5U			0.5U			0.5U			0.5U		
Ethylbenzene	0.5U			0.5U			0.5U			0.5U			0.5U			0.5U			0.5U		
Xylenes (total)	0.5U			0.5U			0.5U			0.5U			0.5U			0.5U			0.5U		
Styrene	0.5U			0.5U			0.5U			0.5U			0.5U			0.5U			0.5U		
Bromoform	0.5U			0.5U			0.5U			0.5U			0.5U			0.5U			0.5U		
Isopropylbenzene	0.5U			0.5U			0.5U			0.5U			0.5U			0.5U			0.5U		
1,1,2,2-Tetrachloroethane	0.5U			0.5U			0.5U			0.5U			0.5U			0.5U			0.5U		
1,3-Dichlorobenzene	0.5U			0.5U			0.5U			0.5U			0.5U			0.5U			0.5U		
1,4-Dichlorobenzene	0.5U			0.5U			0.5U			0.5U			0.5U			0.5U			0.5U		
1,2-Dichlorobenzene	0.5U			0.5U			0.5U			0.5U			0.5U			0.5U			0.5U		
1,2-Dibromo-3-chloropropane	0.5U			0.5U			0.5U			0.5U			0.5U			0.5U			0.5U		
1,2,4-Trichlorobenzene	0.5U			0.5U			0.5U			0.5U			0.5U			0.5U			0.5U		
1,2,3-Trichlorobenzene	0.5U			0.5U			0.5U			0.5U			0.5U			0.5U			0.5U		

Val - Validity. Refer to Data Qualifiers in Table 1B.
Com - Comments. Refer to the Corresponding Section in the Narrative for each letter.
CRQL - Contract Required Quantitation Limit, N/A - Not Applicable, NA - Not Analyzed

D1, D2, etc. - Field Duplicate Pairs
FB - Field Blank, EB - Equipment Blank, TB - Trip Blank, BG - Background Sample

ANALYTICAL RESULTS
Tier 3 Table 1A

Case No. : 30205 SDG No. : Y0E00
Site : Omega Chem OU-2
Lab : A4 SCIENTIFIC, INC.
Reviewer : Santiago Lee, ESAT/LDC
Date : May 16, 2002

QUALIFIED DATA
Concentration in ug/L

Analysis Type : Low Level Water Samples
For Volatiles

Station Location :	GW102-MW8B-2006			GW102-MW8C-0087			GW102-MW8D-0116			GW102-MW8D-2007			GW102-MW1B-0080			GW102-MW1A-0055			GW102-MW1A-2008		
Sample ID :	Y0E14		TB	Y0E15			Y0E16			Y0E17		TB	Y0E18			Y0E19			Y0E20		TB
Collection Date :	2/20/2002			2/21/2002			2/21/2002			2/21/2002			2/22/2002			2/22/2002			2/22/2002		
Dilution Factor :	1.0			1.0			1.0			1.0			1.0			1.0			1.0		
Volatile Compound	**Result**	**Val**	**Com**	**Result**	**Val**	**Com**	**Result**	**Val**	**Com**	**Result**	**Val**	**Com**	**Result**	**Val**	**Com**	**Result**	**Val**	**Com**	**Result**	**Val**	**Com**
Dichlorodifluoromethane	0.5U			0.5U			0.5U			0.5U			0.5U			0.5U			0.5U		
Chloromethane	0.5U			0.5U			0.5U			0.5U			0.5U			0.5U			0.5U		
Vinyl Chloride	0.5U			0.5U			0.5U			0.5U			0.5U			0.5U			0.5U		
Bromomethane	0.5U			0.5U			0.5U			0.5U			0.5U			0.5U			0.5U		
Chloroethane	0.5U			0.5U			0.5U			0.5U			0.5U			0.5U			0.5U		
Trichlorofluoromethane	0.5U			0.5U			0.5U			0.5U			0.2L	J	A	0.4L	J	A	0.5U		
1,1-Dichloroethene	0.5U			1			0.3L	J	A	0.5U			15			24		J	0.5U		
1,1,2-Trichloro-1,2,2-trifluoroethane	0.5U			0.5U			0.5U			0.5U			0.8			3			0.5U		
Acetone	5U	J	CD	1200	J	CDJ	12000	J	CDJ	7	J	CD	18	J	CD	5U	J	CD	5U	J	CD
Carbon Disulfide	0.5U			0.5U			0.5U			0.5U			0.5U			0.5U			0.5U		
Methyl Acetate	0.5U	J	C	0.5U	J	C	0.5U	J	C	0.5U	J	C	0.5U	J	C	0.5U	J	C	0.5U	J	C
Methylene Chloride	0.5U	J	D	0.5U	J	DE	0.1L	J	ADE	0.5U	J	DE	0.5U	J	DE	0.5U	J	D	0.5U	J	DE
trans-1,2-Dichloroethene	0.5U			0.5U			0.5U			0.5U			0.5U			0.5U			0.5U	J	F
Methyl tert-Butyl Ether	0.5U			0.5U			0.5U			0.5U			0.5U			0.5U			0.5U		
1,1-Dichloroethane	0.5U			0.5U			0.5U			0.5U			0.5U			0.5U			0.5U		
cis-1,2-Dichloroethene	0.5U			2			0.5U			0.5U			0.5U			0.5U			0.5U	J	F
2-Butanone	5U	J	C	5U	J	C	5U	J	C	5U	J	C	5U	J	C	5U	J	C	5U	J	C
Bromochloromethane	0.5U			0.5U			0.5U			0.5U			0.5U			0.5U			0.5U		
Chloroform	2			0.5L	J	A	3			0.5U			0.5U			0.5U			2		
1,1,1-Trichloroethane	0.5U			0.5U			0.5U			0.5U			0.5U			0.5U			0.5U		
Cyclohexane	0.5U			0.5U			0.5U			0.5U			0.5U	J	E	0.5U	J	E	0.5U	J	E
Carbon Tetrachloride	0.5U			0.5U			0.5U			0.5U			0.5U			0.1L	J	A	0.5U		
Benzene	0.5U			0.5U			0.5U			0.5U			0.5U			0.5U			0.5U		
1,2-Dichloroethane	0.5U			0.5U			0.5U			0.5U			0.5U			0.5U			0.5U		
Trichloroethene	5U			3			16			5U			190		J	310		J	0.5U		
Methylcyclohexane	0.5U			0.5U			0.5U			0.5U			0.5U			0.5U	J	E	0.5U		
1,2-Dichloropropane	0.5U			0.5U			0.5U			0.5U			0.5U			0.5U			0.5U		
Bromodichloromethane	0.2L	J	A	0.5U			0.5U			0.5U			0.5U			0.5U			0.5U		
cis-1,3-Dichloropropene	0.5U			0.5U			0.5U			0.5U			0.5U			0.5U			0.5U		
4-Methyl-2-pentanone	5U			5U			5U			5U			5U			5U			5U		
Toluene	0.5			0.5U			0.5U			0.1L	J	A	0.5U			0.5U			0.4L		
trans-1,3-Dichloropropene	0.5U			0.5U			0.5U			0.5U			0.5U			0.5U			0.5U		
1,1,2-Trichloroethane	0.5U			0.5U			0.5U			0.5U			0.5U			0.5U			0.5U		
Tetrachloroethene	0.5U			12			0.6			0.5U			20			26		J	0.5U		
2-Hexanone	5U			5U			5U			5U			5U	J	C	5U			5U	J	C
Dibromochloromethane	0.5U			0.5U			0.5U			0.5U			0.5U	J	B	0.5U			0.2L		
1,2-Dibromoethane	0.5U			0.5U			0.5U			0.5U			0.5U			0.5U			0.5U		

ANALYTICAL RESULTS
Tier 3 Table 1A

Case No. : 30205 SDG No. : Y0E00
Site : Omega Chem OU-2
Lab : A4 SCIENTIFIC, INC.
Reviewer : Santiago Lee, ESAT/LDC
Date : May 16, 2002

QUALIFIED DATA
Concentration in ug/L

Analysis Type : Low Level Water Samples
For Volatiles

Station Location :	GW102-MW8B-2006			GW102-MW8C-0087			GW102-MW8D-0116			GW102-MW8D-2007			GW102-MW1B-0080			GW102-MW1A-0055			GW102-MW1A-2008		
Sample ID :	Y0E14		TB	Y0E15			Y0E16			Y0E17		TB	Y0E18			Y0E19			Y0E20		TB
Collection Date :	2/20/2002			2/21/2002			2/21/2002			2/21/2002			2/22/2002			2/22/2002			2/22/2002		
Dilution Factor :	1.0			1.0			1.0			1.0			1.0			1.0			1.0		
Volatile Compound	**Result**	**Val**	**Com**	**Result**	**Val**	**Com**	**Result**	**Val**	**Com**	**Result**	**Val**	**Com**	**Result**	**Val**	**Com**	**Result**	**Val**	**Com**	**Result**	**Val**	**Com**
Chlorobenzene	0.5U			0.5U			0.5U			0.5U			0.5U			0.5U			0.5U		
Ethylbenzene	0.5U			0.5U			0.3L	J	A	0.5U			0.5U			0.5U			0.5U		
Xylenes (total)	0.5U			0.4L	J	A	2			0.5U			0.5U			0.5U			0.5U		
Styrene	0.5U			0.5U			0.5U			0.5U			0.5U			0.5U			0.5U		
Bromoform	0.5U			0.5U			0.5U			0.5U			0.5U			0.5U			0.5U		
Isopropylbenzene	0.5U			0.5U			0.5U			0.5U			0.5U	J	E	0.5U	J	E	0.5U	J	E
1,1,2,2-Tetrachloroethane	0.5U			0.5U			0.5U			0.5U			0.5U			0.5U			0.5U		
1,3-Dichlorobenzene	0.5U			0.5U			0.5U			0.5U			0.5U			0.5U			0.5U		
1,4-Dichlorobenzene	0.5U			0.5U			0.5U			0.5U			0.5U			0.5U			0.5U		
1,2-Dichlorobenzene	0.5U			0.5U			0.5U			0.5U			0.5U			0.5U			0.5U		
1,2-Dibromo-3-chloropropane	0.5U			0.5U			0.5U			0.5U			0.5U			0.5U			0.5U		
1,2,4-Trichlorobenzene	0.5U			0.5U			0.5U			0.5U			0.5U			0.5U			0.5U		
1,2,3-Trichlorobenzene	0.5U			0.5U			0.5U			0.5U			0.5U			0.5U			0.5U		

Val - Validity. Refer to Data Qualifiers in Table 1B.
Com - Comments. Refer to the Corresponding Section in the Narrative for each letter.
CRQL - Contract Required Quantitation Limit, N/A - Not Applicable, NA - Not Analyzed

D1, D2, etc. - Field Duplicate Pairs
FB - Field Blank, EB - Equipment Blank, TB - Trip Blank, BG - Background Sample

ANALYTICAL RESULTS
Tier 3 Table 1A

Case No.: 30205 SDG No.: Y0E00
Site: Omega Chem OU-2
Lab: A4 SCIENTIFIC, INC.
Reviewer: Santiago Lee, ESAT/LDC
Date: May 16, 2002

QUALIFIED DATA
Concentration in ug/L

Analysis Type: Low Level Water Samples For Volatiles

Station Location:	GW102-MW4C-0094			GW102-MW4C-0094			Method Blank			Method Blank			Method Blank			Method Blank			Method Blank		
Sample ID:	Y0E07MS			Y0E07MSD			VBLK84			VBLK85			VBLK86			VBLK88			VBLK89		
Collection Date:	2/19/2002			2/19/2002																	
Dilution Factor:	1.0			1.0			1.0			1.0			1.0			1.0			1.0		
Volatile Compound	**Result**	**Val**	**Com**	**Result**	**Val**	**Com**	**Result**	**Val**	**Com**	**Result**	**Val**	**Com**	**Result**	**Val**	**Com**	**Result**	**Val**	**Com**	**Result**	**Val**	**Com**
Dichlorodifluoromethane	0.2L	J	A	0.5U			0.5U			0.5U			0.5U			0.5U			0.5U		
Chloromethane	0.5U			0.5U			0.5U			0.5U			0.5U			0.5U			0.5U		
Vinyl Chloride	0.5U			0.5U			0.5U			0.5U			0.5U			0.5U			0.5U		
Bromomethane	0.5U			0.5U			0.5U			0.5U			0.5U			0.5U			0.5U		
Chloroethane	0.5U			0.5U			0.5U			0.5U			0.5U			0.5U			0.5U		
Trichlorofluoromethane	7			6			0.5U			0.5U			0.5U			0.5U			0.5U		
1,1-Dichloroethene	8		H	7		H	0.5U			0.5U			0.5U			0.5U			0.5U		
1,1,2-Trichloro-1,2,2-trifluoroethane	18			14			0.5U			0.5U			0.5U			0.5U			0.5U		
Acetone	5U	J	BCD	5U	J	CD	5U	J	CD	5U	J	CD	5U	J	CD	5U	J	CD	5U	J	CD
Carbon Disulfide	0.5U			0.5U			0.5U			0.5U			0.2L	J	A	0.5U			0.5U		
Methyl Acetate	0.5U	J	C	0.5U	J	C	0.5U	J	C	0.5U	J	C	0.5U	J	C	0.5U	J	C	0.5U	J	C
Methylene Chloride	1U	J	BD	1U	J	BD	0.2L	J	AD	0.2L	J	AD	0.2L	J	AD	0.5U	J	DE	0.5U	J	DE
trans-1,2-Dichloroethene	0.5U			0.5U			0.5U			0.5U			0.5U			0.5U			0.5U		
Methyl tert-Butyl Ether	0.5U			0.5U			0.5U			0.5U			0.5U			0.5U			0.5U		
1,1-Dichloroethane	0.5U			0.5U			0.5U			0.5U			0.5U			0.5U			0.5U		
cis-1,2-Dichloroethene	0.8			0.8			0.5U			0.5U			0.5U			0.5U			0.5U		
2-Butanone	5U	J	C	5U	J	C	5U	J	C	5U	J	C	5U	J	C	5U	J	C	5U	J	C
Bromochloromethane	0.5U			0.5U			0.5U			0.5U			0.5U			0.5U			0.5U		
Chloroform	1			1			0.5U			0.5U			0.5U			0.5U			0.5U		
1,1,1-Trichloroethane	0.5U			0.5U			0.5U			0.5U			0.5U			0.5U			0.5U		
Cyclohexane	0.5U			0.5U			0.5U			0.5U			0.5U			0.5U			0.5U	J	E
Carbon Tetrachloride	0.5U			0.5U			0.5U			0.5U			0.5U			0.5U			0.5U		
Benzene	4			4			0.5U			0.5U			0.5U			0.5U			0.5U		
1,2-Dichloroethane	0.5U			0.5U			0.5U			0.5U			0.5U			0.5U			0.5U		
Trichloroethene	130	J	GH	120	J	GH	0.5U			0.5U			0.5U			0.5U			0.5U		
Methylcyclohexane	0.5U			0.5U			0.5U			0.5U			0.5U			0.5U			0.5U		
1,2-Dichloropropane	0.5U			0.5U			0.5U			0.5U			0.5U			0.5U			0.5U		
Bromodichloromethane	0.5U			0.5U			0.5U			0.5U			0.5U			0.5U			0.5U		
cis-1,3-Dichloropropene	0.5U			0.5U			0.5U			0.5U			0.5U			0.5U			0.5U		
4-Methyl-2-pentanone	5U			5U			5U			5U			5U			5U			5U		
Toluene	5			4			0.5U			0.5U			0.5U			0.5U			0.5U		
trans-1,3-Dichloropropene	0.5U			0.5U			0.5U			0.5U			0.5U			0.5U			0.5U		
1,1,2-Trichloroethane	0.5U			0.5U			0.5U			0.5U			0.5U			0.5U			0.5U		
Tetrachloroethene	20			18			0.5U			0.5U			0.5U			0.5U			0.5U		
2-Hexanone	5U			5U			5U			5U			5U			5U			5U	J	C
Dibromochloromethane	0.5U			0.5U			0.5U			0.5U			0.5U			0.5U			0.5U		
1,2-Dibromoethane	0.5U			0.5U			0.5U			0.5U			0.5U			0.5U			0.5U		

ANALYTICAL RESULTS
Tier 3 Table 1A

Case No.: 30205 SDG No.: Y0E00
Site: Omega Chem OU-2
Lab: A4 SCIENTIFIC, INC.
Reviewer: Santiago Lee, ESAT/LDC
Date: April 29, 2002

QUALIFIED DATA
Concentration in ug/L

Analysis Type: Low Level Water Samples
For Volatiles

Station Location:	GW102-MW4C-0094			GW102-MW4C-0094			Method Blank			Method Blank			Method Blank			Method Blank			Method Blank		
Sample ID:	Y0E07MS			Y0E07MSD			VBLK84			VBLK85			VBLK86			VBLK88			VBLK89		
Collection Date:	2/19/2002			2/19/2002																	
Dilution Factor:	1.0			1.0			1.0			1.0			1.0			1.0			1.0		
Volatile Compound	**Result**	**Val**	**Com**	**Result**	**Val**	**Com**	**Result**	**Val**	**Com**	**Result**	**Val**	**Com**	**Result**	**Val**	**Com**	**Result**	**Val**	**Com**	**Result**	**Val**	**Com**
Chlorobenzene	5			5			0.5U			0.5U			0.5U			0.5U			0.5U		
Ethylbenzene	0.5U			0.5U			0.5U			0.5U			0.5U			0.5U			0.5U		
Xylenes (total)	0.5U			0.5U			0.5U			0.5U			0.5U			0.5U			0.5U		
Styrene	0.5U			0.5U			0.5U			0.5U			0.5U			0.5U			0.5U		
Bromoform	0.5U			0.5U			0.5U			0.5U			0.5U			0.5U			0.5U		
Isopropylbenzene	0.5U			0.5U			0.5U			0.5U			0.5U			0.5U			0.5U	J	E
1,1,2,2-Tetrachloroethane	0.5U			0.5U			0.5U			0.5U			0.5U			0.5U			0.5U		
1,3-Dichlorobenzene	0.5U			0.5U			0.5U			0.5U			0.5U			0.5U			0.5U		
1,4-Dichlorobenzene	0.5U			0.5U			0.5U			0.5U			0.5U			0.5U			0.5U		
1,2-Dichlorobenzene	0.5U			0.5U			0.5U			0.5U			0.5U			0.5U			0.5U		
1,2-Dibromo-3-chloropropane	0.5U			0.5U			0.5U			0.5U			0.5U			0.5U			0.5U		
1,2,4-Trichlorobenzene	0.5U			0.5U			0.5U			0.5U			0.2L	J	A	0.5U			0.5U		
1,2,3-Trichlorobenzene	0.5U			0.5U			0.3L	J	A	0.5U			0.4L	J	A	0.5U			0.3L	J	A

Val - Validity. Refer to Data Qualifiers in Table 1B.
Com - Comments. Refer to the Corresponding Section in the Narrative for each letter.
CRQL - Contract Required Quantitation Limit, N/A - Not Applicable, NA - Not Analyzed

D1, D2, etc. - Field Duplicate Pairs
FB - Field Blank, EB - Equipment Blank, TB - Trip Blank, BG - Background Sample

ANALYTICAL RESULTS
Tier 3 Table 1A

Case No. : 30205 SDG No. : Y0E00
Site : Omega Chem OU-2
Lab : A4 SCIENTIFIC, INC.
Reviewer : Santiago Lee, ESAT/LDC
Date : April 29, 2002

QUALIFIED DATA
Concentration in ug/L

Analysis Type : Low Level Water Samples
For Volatiles

Station Location :	Method Blank			Method Blank			Storage Blank			CRQL											
Sample ID :	VBLK90			VBLK92			VHBLK01														
Collection Date :																					
Dilution Factor :	1.0			1.0			1.0														
Volatile Compound	**Result**	**Val**	**Com**	**Result**	**Val**	**Com**	**Result**	**Val**	**Com**	**Result**	**Val**	**Com**	**Result**	**Val**	**Com**	**Result**	**Val**	**Com**	**Result**	**Val**	**Com**
Dichlorodifluoromethane	0.5U			0.5U			0.5U			0.5											
Chloromethane	0.5U			0.5U			0.5U			0.5											
Vinyl Chloride	0.5U			0.5U			0.5U			0.5											
Bromomethane	0.5U			0.5U			0.5U			0.5											
Chloroethane	0.5U			0.5U			0.5U			0.5											
Trichlorofluoromethane	0.5U			0.5U			0.5U			0.5											
1,1-Dichloroethene	0.5U			0.5U			0.5U			0.5											
1,1,2-Trichloro-1,2,2-trifluoroethane	0.5U			0.5U			0.5U			0.5											
Acetone	5U	J	CD	5U	J	CDE	5U	J	CDE	5											
Carbon Disulfide	0.1L	J	A	0.5U			0.5U			0.5											
Methyl Acetate	0.5U	J	C	0.5U	J	C	0.5U	J	C	0.5											
Methylene Chloride	0.1L	J	AD	0.5U	J	D	0.5U	J	D	0.5											
trans-1,2-Dichloroethene	0.5U			0.5U			0.5U			0.5											
Methyl tert-Butyl Ether	0.5U			0.5U			0.5U			0.5											
1,1-Dichloroethane	0.5U			0.5U			0.5U			0.5											
cis-1,2-Dichloroethene	0.5U			0.5U			0.5U			0.5											
2-Butanone	5U	J	C	5U	J	C	5U	J	C	5											
Bromochloromethane	0.5U			0.5U			0.5U			0.5											
Chloroform	0.5U			0.5U			0.5U			0.5											
1,1,1-Trichloroethane	0.5U			0.5U			0.5U			0.5											
Cyclohexane	0.5U	J	E	0.5U			0.5U			0.5											
Carbon Tetrachloride	0.5U			0.5U			0.5U			0.5											
Benzene	0.5U			0.5U			0.5U			0.5											
1,2-Dichloroethane	0.5U			0.5U			0.5U			0.5											
Trichloroethene	0.5U			0.5U			0.5U			0.5											
Methylcyclohexane	0.5U	J	E	0.5U			0.5U			0.5											
1,2-Dichloropropane	0.5U			0.5U			0.5U			0.5											
Bromodichloromethane	0.5U			0.5U			0.5U			0.5											
cis-1,3-Dichloropropene	0.5U			0.5U			0.5U			0.5											
4-Methyl-2-pentanone	5U			5U			5U			5											
Toluene	0.5U			0.5U			0.5U			0.5											
trans-1,3-Dichloropropene	0.5U			0.5U			0.5U			0.5											
1,1,2-Trichloroethane	0.5U			0.5U			0.5U			0.5											
Tetrachloroethene	0.5U			0.5U			0.5U			0.5											
2-Hexanone	5U			5U			5U			5											
Dibromochloromethane	0.5U			0.5U			0.5U			0.5											
1,2-Dibromoethane	0.5U			0.5U			0.5U			0.5											

ANALYTICAL RESULTS
Tier 3 Table 1A

Case No. : 30205 SDG No. : Y0E00
Site : Omega Chem OU-2
Lab : A4 SCIENTIFIC, INC.
Reviewer : Santiago Lee, ESAT/LDC
Date : April 29, 2002

QUALIFIED DATA
Concentration in ug/L

Analysis Type : Low Level Water Samples For Volatiles

Station Location :	Method Blank			Method Blank			Storage Blank			CRQL											
Sample ID :	VBLK90			VBLK92			VHBLK01														
Collection Date :																					
Dilution Factor :	1.0			1.0			1.0														
Volatile Compound	**Result**	**Val**	**Com**	**Result**	**Val**	**Com**	**Result**	**Val**	**Com**	**Result**	**Val**	**Com**	**Result**	**Val**	**Com**	**Result**	**Val**	**Com**	**Result**	**Val**	**Com**
Chlorobenzene	0.5U			0.5U			0.5U			0.5											
Ethylbenzene	0.5U			0.5U			0.5U			0.5											
Xylenes (total)	0.5U			0.5U			0.5U			0.5											
Styrene	0.5U			0.5U			0.5U			0.5											
Bromoform	0.5U			0.5U			0.5U			0.5											
Isopropylbenzene	0.5U	J	E	0.5U	J	E	0.5U	J	E	0.5											
1,1,2,2-Tetrachloroethane	0.5U			0.5U			0.5U			0.5											
1,3-Dichlorobenzene	0.5U			0.5U			0.5U			0.5											
1,4-Dichlorobenzene	0.5U			0.5U			0.5U			0.5											
1,2-Dichlorobenzene	0.5U			0.5U			0.5U			0.5											
1,2-Dibromo-3-chloropropane	0.5U			0.5U			0.5U			0.5											
1,2,4-Trichlorobenzene	0.5U			0.5U			0.5U			0.5											
1,2,3-Trichlorobenzene	0.5U			0.5U			0.5U			0.5											

Val - Validity. Refer to Data Qualifiers in Table 1B.
Com - Comments. Refer to the Corresponding Section in the Narrative for each letter.
CRQL - Contract Required Quantitation LImit, N/A - Not Applicable, NA - Not Analyzed

D1, D2, etc. - Field Duplicate Pairs
FB - Field Blank, EB - Equipment Blank, TB - Trip Blank, BG - Background Sample

TABLE 1B

DATA QUALIFIER DEFINITIONS FOR ORGANIC DATA REVIEW

The definitions of the following qualifiers are prepared according to the document, "USEPA Contract Laboratory Program National Functional Guidelines for Organic Data Review," February 1994.

U	The analyte was analyzed for but was not detected above the reported sample quantitation limit.
L	Indicates results which fall below the Contract Required Quantitation Limit. Results are estimated and are considered qualitatively acceptable but quantitatively unreliable due to uncertainties in the analytical precision near the limit of detection.
J	The analyte was positively identified; the associated numerical value is the approximate concentration of the analyte in the sample.
NJ	The analysis indicates the presence of an analyte that has been "tentatively identified" and the associated numerical value represents its approximate concentration.
UJ	The analyte was not detected above the reported sample quantitation limit. However, the reported quantitation limit is approximate and may or may not represent the actual limit of quantitation necessary to accurately and precisely measure the analyte in the sample.
R	The sample results are rejected due to serious deficiencies in the ability to analyze the sample and meet quality control criteria. The presence or absence of the analyte cannot be verified.

Table 2
Calibration Summary

Case No.: 30205 SDG No.: Y0E00
Site: Omega Chem OU-2
Laboratory: A4 Scientific
Reviewer: Santiago Lee, ESAT/LDC
Date: May 20, 2002

RELATIVE RESPONSE FACTORS

	$\overline{RRF}$	RRF	RRF	RRF	RRF	RRF	RRF	RRF
Analysis Date:	01/31/02	03/02/02	03/02/02	03/03/02	03/04/02	03/04/02	03/05/02	03/07/02
Analysis Time:	0928-1147	0827	2056	1147	1107	2253	1229	1107
GC/MS I.D.:	C-5973	C-5973	C-5973	C-5973	C-5973	C-5973	C-5973	C-5973
Analyte	Init.	Cont.	Cont.	Cont.	Cont.	Cont.	Cont.	Cont.
Acetone	0.022	0.025	0.021	0.019	0.026	0.020	0.020	0.036
Methyl Acetate	0.044	0.044	-----	0.037	0.038	0.042	0.036	0.044
2-Butanone	0.024	0.028	0.027	0.023	0.025	0.023	0.022	0.028
2-Hexanone	-----	-----	-----	-----	-----	0.048	-----	-----
2-Butanone-d5	0.027	0.020	0.019	0.019	0.019	0.022	0.022	0.026
2-Hexanone-d5	0.027	0.020	0.022	0.022	0.019	0.019	0.020	0.021

PERCENT RELATIVE STANDARD DEVIATIONS

	%RSD
Analysis Date:	01/31/02
Analysis Time:	0928-1147
GC/MS I.D.:	C-5973
Analyte	Init.
Acetone	32.6
Methylene Chloride	41.0
2-Hexanone-d5	33.1

PERCENT DIFFERENCES

	%D	%D	%D	%D	%D	%D	%D
Analysis Date:	03/02/02	03/02/02	03/03/02	03/04/02	03/04/02	03/05/02	03/07/02
Analysis Time:	0827	2056	1147	1107	2253	1229	1107
GC/MS I.D.:	C-5973	C-5973	C-5973	C-5973	C-5973	C-5973	C-5973
Analyte	Cont.	Cont.	Cont.	Cont.	Cont.	Cont.	Cont.
Methylene Chloride	----	----	----	-30.9	-30.8	----	----
Cyclohexane	----	----	----	----	+37.2	+39.9	----
Methylcyclohexane	----	----	----	----	----	+34.6	----
Isopropylbenzene	----	----	----	----	+32.0	+34.7	+32.5
Acetone	----	----	----	----	----	----	+63.6

- = biased low ; + = biased high

ASSOCIATED SAMPLES AND METHOD BLANKS

Init. 01/31/02: All samples, storage blank, and method blanks.
Cont. 03/02/02: Y0E07 through Y0E10, Y0E07MS, and Y0E07MSD
Cont. 03/02/02: Y0E07DL and Y0E14
Cont. 03/03/02: Y0E11 through Y0E13, and Y0E12DL
Cont. 03/04/02: Y0E15 through Y0E17, Y0E15DL, and Y0E16DL
Cont. 03/04/02: Y0E20 and Y0E18
Cont. 03/05/02: Y0E18DL, Y0E19DL, Y0E19, and Y0E11DL
Cont. 03/07/02: VHBLK01

1LCF

LOW CONCENTRATION WATER VOLATILE ORGANICS ANALYSIS

DATA SHEET TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

Y0E08

Lab Name: A4 SCIENTIFIC, INC. Contract: 68-W-01-038

Lab Code: A4 Case No.: 30205 Client No.: SDG No.: Y0E00

Lab Sample ID: 1369.004 Date Received: 02/20/2002

Lab File ID: C3580 Date Analyzed: 03/02/2002

Purge Volume: 25 (ML) Dilution Factor: 1.0

GC Column: RTX-624 ID: 0.32 (MM) Length: 60 (M)

Number TICs found: 1

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC. (UG/L)	Q
01	000076-12-0	Ethane, 1,1,2,2-tetrachloro-	7.68	0.57	JN
02		1,2-difluoro-			
03					
04		SL, 4/10/02.			
05					
06					
07					
08					
09					
10					
11					
12					
13					
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28					
29					
30					

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LOW CONCENTRATION WATER VOLATILE ORGANICS ANALYSIS

DATA SHEET TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

Y0E09

Lab Name: A4 SCIENTIFIC, INC. Contract: 68-W-01-038

Lab Code: A4 Case No.: 30205 Client No.: SDG No.: Y0E00

Lab Sample ID: 1369.005 Date Received: 02/20/2002

Lab File ID: C3581 Date Analyzed: 03/02/2002

Purge Volume: 25 (ML) Dilution Factor: 1.0

GC Column: RTX-624 ID: 0.32 (MM) Length: 60 (M)

Number TICs found: 1

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC. (UG/L)	Q
01	000076-12-0	Ethane, 1,1,2,2-tetrachloro-	7.68	0.59	JN
02		1,2-difluoro-			
03					
04		SC, 4/1/02.			
05					
06					
07					
08					
09					
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28					
29					
30					

092

1LCF

LOW CONCENTRATION WATER VOLATILE ORGANICS ANALYSIS

DATA SHEET TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

Y0E15

Lab Name: A4 SCIENTIFIC, INC. Contract: 68-W-01-038

Lab Code: A4 Case No.: 30205 Client No.: SDG No.: Y0E00

Lab Sample ID: 1378.006 Date Received: 02/22/2002

Lab File ID: C3620 Date Analyzed: 03/04/2002

Purge Volume: 25 (ML) Dilution Factor: 1.0

GC Column: RTX-624 ID: 0.32 (MM) Length: 60 (M)

Number TICs found: 1

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC. (UG/L)	Q
01		UNKNOWN	4.06	1.3	J
02					
03					
04					
05					
06					
07					
08					
09					
10					
11					
12					
13					
14					
15					
16					
17					
18					
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21					
22					
23					
24					
25					
26					
27					
28					
29					
30					

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LOW CONCENTRATION WATER VOLATILE ORGANICS ANALYSIS

DATA SHEET TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

Y0E16

Lab Name: A4 SCIENTIFIC, INC. Contract: 68-W-01-038

Lab Code: A4 Case No.: 30205 Client No.: SDG No.: Y0E00

Lab Sample ID: 1378.007 Date Received: 02/22/2002

Lab File ID: C3629 Date Analyzed: 03/04/2002

Purge Volume: 25 (ML) Dilution Factor: 1.0

GC Column: RTX-624 ID: 0.32 (MM) Length: 60 (M)

Number TICs found: 1

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC. (UG/L)	Q
01		UNKNOWN	4.06	58	J
02					
03					
04					
05					
06					
07					
08					
09					
10					
11					
12					
13					
14					
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